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cons.aa	G G G V	A K	E
hTGfBR-II	LDTLVGKGRFAEVYKAJLKQNTSEQFETVAVKIFPYDHYASWKDRKDIFSDINLKHENILQF		
mActR-IIB	LLEIKARGRFGCVWKAQLMN-----DFVAVKIKPLQDKQSWQSEREIFSTPGMKHENILQF		
mActR-II	LLEVKARGRFGCVWKAQLLN-----EYVAVKIFPIQDKQSWQNEYEVYSIPGMKHENILQF		
daf-1	LTVRVGSGRFGNVSRGDYRG-----EAVAVKVFNAIDEPAFHKEIEIFETRMLRHPNVLRY		
subdomains	I	II	III IV

hTGfBR-II	LTAERKTELKQYWLITAFHAKGNLQEYLTRHVISWEDLRNVGSSSLARGLSHLHSDHTP-C
mActR-IIB	IAAEKRGSNLEVELWLITAFHDKGSLIDYLGKNIITWNECHVAETMSRGISYLNHEDVPWCR
mActR-II	IGAERGTSDVDLWLITAFHEKGSLSDFLKANVVSWNELCHIAETMARGLAYLHEDI PGLK
daf-1	IGSDRVDVTGFVTELWLVI EYHPSGSLHDFLLENTVNIETTYNLMRSTASGLAFLHNQIGGSK
subdomains	V VI-A

cons.aa	DLK N	DFG
hTGfBR-II	-GRPKMPIVHRDLKSSNILLVKNLDTCCLCDPGLSLRL---GPYSSVDDLANSQGVGTARYMAP	
mActR-IIB	GECHKPSIAHRDFKSKNVLLKSDLTAVLADFGGLAVRF---EPGKPPGD--THGQVGTTRYMAP	
mActR-II	-DGHKPAISHRDIKSKNVLLKQNLTAIADPGLALKF---EAGKSAGD--THGQVGTTRYMAP	
daf-1	-ESNKPAMAHARDIKSKNTIMYKNDLTCAIGDLGLSLSKPEDAASDI IAN--ENYKCGTVRYLAP	
subdomains	VI-B	VII VIII

Fig. 1

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a.a C C E G N M C
5' GCGGATCCTGTTGTGAAGGNAATATGTG 3' Fig. 2A
BAMHI C C G C

a.a V A V K I F
5' GCGGATCCGTCGCAGTCAAAATTTT 3' Fig. 2B
BamHI G C G G C
T T T A

a.a R D I K S K N
5' GCGGATCCGCGATATTAAAAGCAA 3' Fig. 2C
BAMHI A C C GTCT
G A

a.a E P A M Y
5' CGGAATTCTGGTGCCATATA Fig. 2D
EcoRI G G G
A A

M G A A A K L A F A V F L I S C S S G A I L G R A C C R - I I
M T A P W A A L A L L W C S S L C C A C S C R G E A C C R - I I B
M G R G L L R G L W P L H I V L W T R I A S T I P M E A P P H V Q K S V M N D M I V T O M N G A V T E R - I I
M T Q L Y I Y I R L L G A Y L F I I S R V Q G Q N L D S M L H G T G M K S D S O Q K K S E A L K - 3
M E A I A V A A P R P K L L M L L V L A A A T E R - I / A L K - 5
M V D G V M I L P V L I M I A L P S P A L K - 1
M L L R S S G K L M V G T M K E A L K - 6

[illegible][illegible]

Fig. 3

[illegible][illegible]

- D C A D S - F K P L - P F Q Q D P G P P P S - P L L G L - - - - - K P L Q L L E V K A R G R A C C R - I I
 - E M C A I T I L K G D L L D S D C T I T G S G S G L P L F L V Q R T I A R T I V L Q E S I G K C R A C C R - I I B
 - E Q G D S T L A D L I D H S C T S S G S G S G L P L F L V Q R T V A R Q T I V A L V E C C V G K C R T R R - I I
 - M V G D S E L K D L I D V D L S Q S T S S G S G S G L P L F L V Q R T I A K Q I Q M V R Q V G K C R A L K - I
 - - - - D K T L Q R D L I E Q S Q S S G S G S G L P L L V Q R T I A R T I V L Q E I I G K C R A L K - 2
 - - - - G E S L R D L I E Q S Q S S G S G S G L P L L V Q R T I A K Q I Q M V K O I G K C R A L K - 3
 - - - - G E S L R D L I E Q S Q S S G S G S G L P L L V Q R T I A K Q I Q M V K O I G K C R A L K - 4
 - - - - G E S L R D L I E Q S Q S S G S G S G L P L L V Q R T I A K Q I Q M V K O I G K C R A L K - 6

Fig. 3 contd.

Y

F	G	C	V	W	K	A	Q	L	N	-	-	-	E	Y	V	K	I	F	P	I	Q	D	K	Q	S	W	Q	N	E	Y	E	Y	S	L	P	G	M	ACR-II
F	G	C	V	W	K	A	Q	L	N	-	-	-	D	F	V	A	V	K	I	F	P	L	Q	D	K	Q	S	W	Q	N	E	Y	E	T	P	G	M	ACR-III
F	A	E	V	Y	K	A	R	L	K	Q	-	-	E	T	V	A	V	K	I	F	P	Y	E	E	Y	A	S	W	K	T	E	R	O	I	N	L	ISR-II	
F	G	E	V	W	R	G	K	M	H	G	E	-	-	-	V	A	V	K	I	F	S	S	R	E	E	Y	A	S	W	F	R	E	I	Y	Q	I	M	ISR-I/ALK-S
Y	G	E	V	W	R	G	S	W	Q	E	N	-	-	-	V	A	V	K	I	F	S	S	R	D	E	Q	S	W	F	R	E	I	Y	M	T	V	L	ALK-1
Y	G	E	V	W	R	G	S	W	Q	E	N	-	-	-	V	A	V	K	I	F	S	S	R	D	E	Q	S	W	F	R	E	I	Y	M	T	V	L	ALK-2
Y	G	E	V	W	R	G	S	W	Q	E	N	-	-	-	V	A	V	K	I	F	S	S	R	D	E	Q	S	W	F	R	E	I	Y	Q	T	V	L	ALK-3
F	G	E	V	W	R	G	R	W	R	G	D	-	-	-	V	A	V	K	I	F	S	S	R	E	E	A	S	W	F	R	E	I	Y	Q	T	V	M	ALK-4
Y	G	E	V	W	M	G	K	W	R	G	E	K	-	-	V	A	V	K	I	V'	F	F	T	T	E	A	S	W	F	R	E	I	Y	Q	T	V	L	ALK-6

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v18

VIA

Fig. 3 contd.

K	N	N	L	T	A	C	I	A	D	F	G	L	A	L	K	F	E	A	G	K	S	A	G	D	-	-	-	T	H	G	Q	V	G	T	R	R	Y	M	A	P	E	V	L	E	G	ACTR-II	
K	K	S	D	L	T	A	V	L	A	D	F	G	L	A	V	R	F	E	P	T	L	S	V	D	D	-	-	-	T	H	G	Q	V	G	T	R	Y	M	A	P	E	V	L	E	G	ACTR-IIIB	
K	K	N	D	L	T	C	C	L	C	D	E	G	L	S	L	R	L	D	P	T	L	S	V	D	D	L	A	N	S	G	Q	V	G	T	A	R	Y	M	A	P	E	V	L	E	S	T6R-II	
K	K	K	N	G	T	C	C	I	A	D	L	G	L	A	V	R	H	D	S	A	T	I	D	I	D	I	A	P	H	R	V	G	T	K	R	Y	M	A	P	E	V	L	D	D	T6R-I/ALK-5		
K	K	S	N	L	Q	C	C	I	A	D	L	G	L	A	V	M	H	S	Q	S	D	Y	L	D	I	D	I	G	N	P	R	V	G	T	K	R	Y	M	A	P	E	V	L	D	E	ALK-1	
K	K	K	N	G	S	C	C	I	A	D	L	G	L	A	V	M	H	S	Q	S	T	N	Q	L	D	D	V	G	N	P	R	V	G	T	K	R	Y	M	A	P	E	V	L	D	E	ALK-2	
K	K	K	N	G	S	C	C	I	A	D	L	G	L	A	V	K	F	N	S	D	T	N	E	V	D	V	V	L	M	T	R	V	G	T	K	R	Y	M	A	P	E	V	L	D	E	ALK-3	
K	K	K	N	G	M	C	A	I	A	D	L	G	L	A	V	R	H	D	A	V	I	D	T	I	D	I	I	A	P	M	Q	R	V	G	T	K	R	Y	M	A	P	E	V	L	D	E	ALK-4
K	K	K	N	G	I	C	C	I	A	D	L	G	L	A	V	K	F	I	S	D	I	N	E	V	D	I	I	I	P	M	T	R	V	G	T	K	R	Y	M	P	E	V	L	D	E	ALK-6	

vii

[illegible]

viii

E	I	G	Q	H	P	S	L	E	D	H	Q	E	V	V	V	V	H	K	K	K	R	P	V	L	R	D	Y	W	Q	K	H	A	G	M	A	M	L	C	E	T	I	E	C	W	Actr-II				
E	I	G	Q	H	P	S	L	E	E	S	M	K	E	V	V	V	V	H	K	K	R	P	V	T	I	K	D	N	L	Q	K	H	A	G	M	A	Q	L	C	E	T	I	E	C	W	Actr-IIB			
K	V	P	E	H	P	C	V	E	S	M	K	E	E	N	V	V	R	D	R	G	R	P	E	I	P	S	F	M	L	N	M	Q	C	E	I	Q	M	V	M	A	L	C	E	T	I	E	C	W	TSR-II
L	V	P	S	D	P	S	V	E	E	M	K	V	V	V	V	V	C	V	Q	K	L	P	M	I	P	N	R	R	L	Q	A	D	P	V	L	S	G	L	A	M	M	R	E	C	W	TSR-I/ALK-5			
M	V	P	S	D	P	S	F	E	D	M	K	V	V	V	V	V	C	V	Q	Q	Q	P	M	I	P	N	R	R	L	A	D	P	V	L	S	G	L	A	M	M	R	E	C	W	ALK-1				
M	V	P	S	D	P	S	F	E	D	M	K	V	V	V	V	V	C	V	Q	Q	Q	P	M	I	P	N	R	R	L	A	D	P	V	L	S	G	L	A	M	M	R	E	C	W	ALK-2				
L	V	P	S	D	P	S	I	E	D	M	R	E	V	V	V	V	C	V	K	R	L	P	M	I	P	N	R	R	L	A	D	P	V	L	S	G	L	A	M	M	R	E	C	W	ALK-3				
L	V	P	S	D	P	S	I	E	E	M	R	K	V	V	V	V	C	D	Q	K	L	P	M	I	P	N	R	R	L	A	D	P	V	L	S	G	L	A	M	M	R	E	C	W	ALK-4				
L	V	P	S	D	P	S	I	E	D	M	R	E	I	V	C	M	K	K	L	R	P	V	S	F	P	N	R	L	Q	A	D	P	V	L	S	G	L	A	M	M	R	E	C	W	ALK-6				

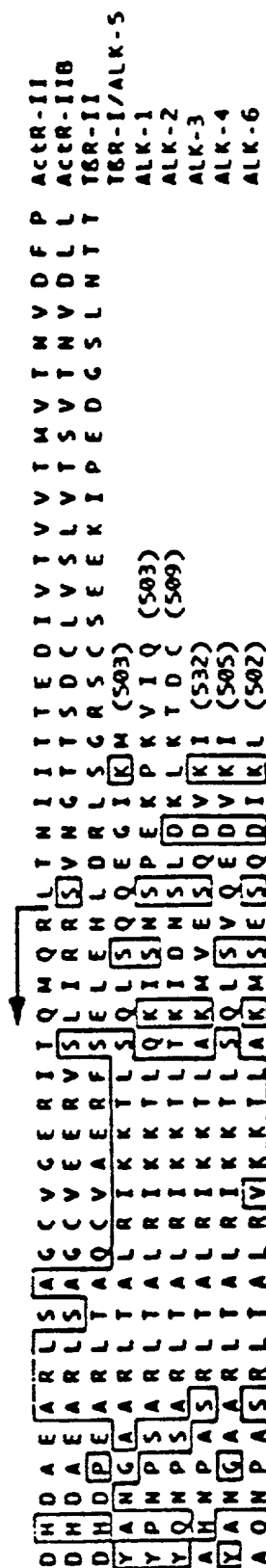
IX

X

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X

Fig. 3 contd.



XI

P K E S S L (S13) A C T R - I I
 P K E S S I (S36) A C T R - I I B
 K (S67) T B R - I I

Fig. 3 contd.

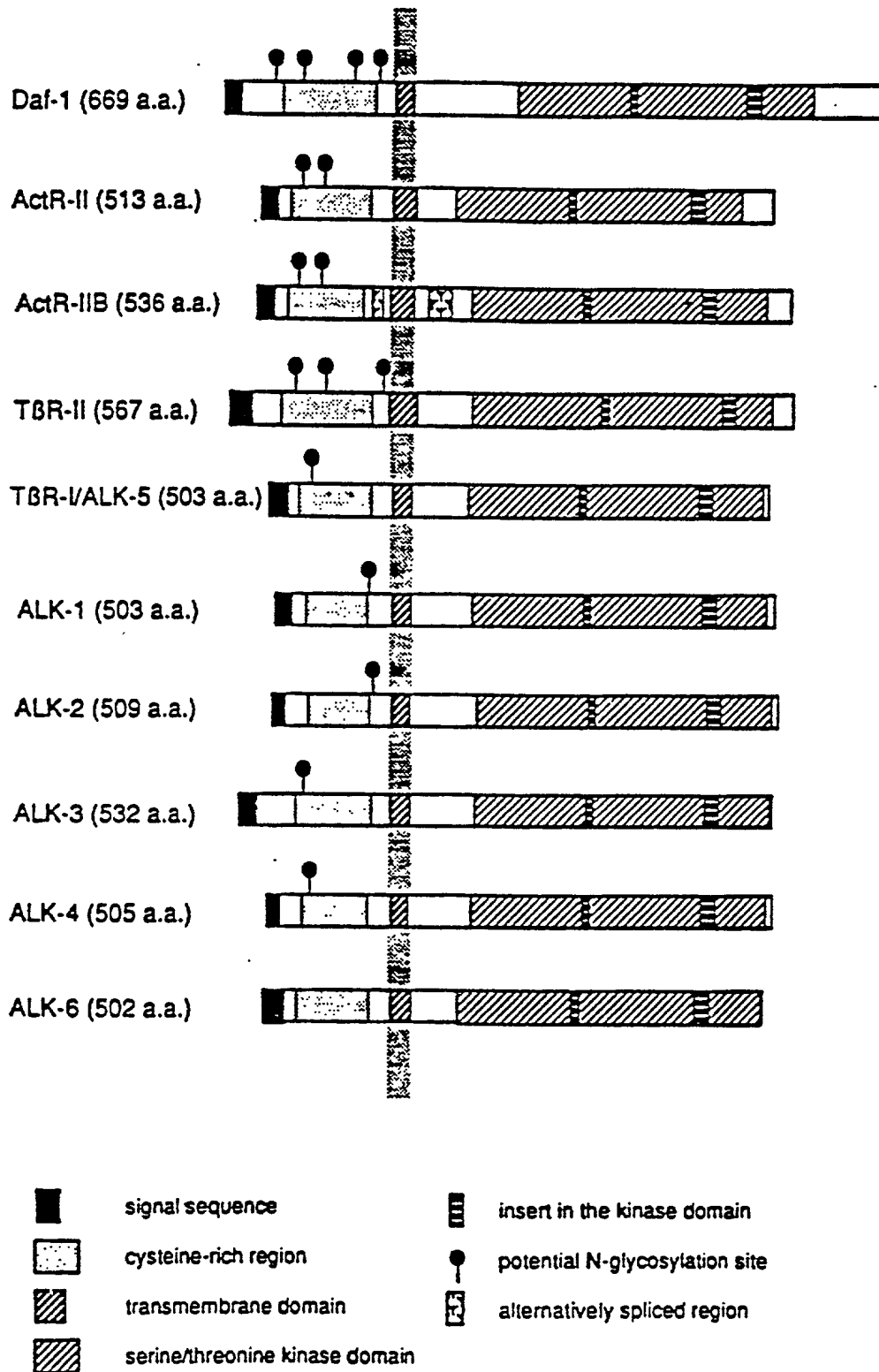


Fig. 4

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ALK-2	ALK-3	ALK-4	ALK-5	ActR-II	ActR-IIB	TBR-II	daf-1	
79	60	61	63	40	40	37	39	ALK-1
	63	64	65	41	39	37	39	ALK-2
		63	65	41	38	37	39	ALK-3
			90	41	40	39	42	ALK-4
				42	40	41	43	ALK-5
					78	48	35	ActR-II
						47	32	ActR-IIB
							34	TBR-II

Fig. 6

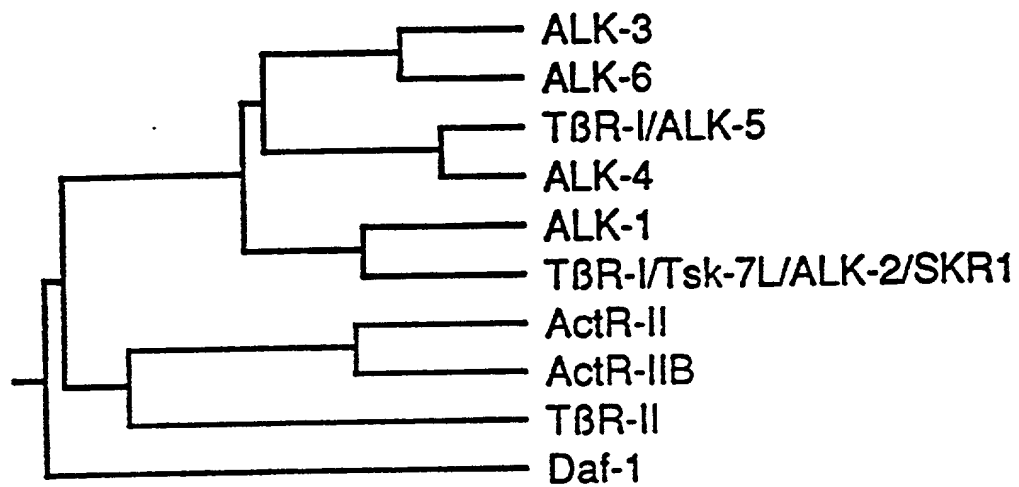


Fig. 7